CAHFSE Quarterly Report

January 1– March 30, 2004

Reporting Units

Figure 1 shows the aggregate number of market hogs on all CAHFSE sites over time. These inventory numbers will be larger than those shown in Table 1, which reports only sites where fecal samples were collected. This graph may rise with the addition of more sites to CAHFSE or with the substitution of larger sites in CAHFSE.

Figure 1. Total number of market hogs on all CAHFSE sites by quarter

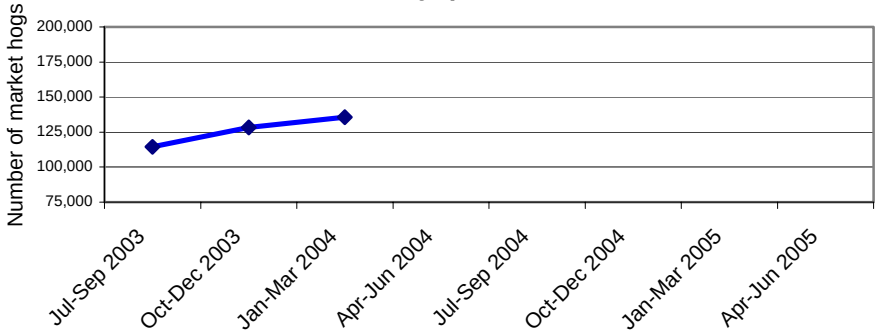


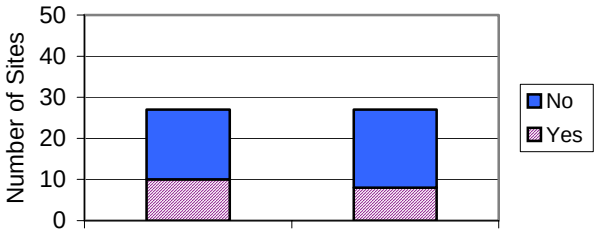
Table 1 shows the number of sites where fecal samples were collected during the reference quarter. The total number of sites in this table may be less than the total number of sites participating in the CAHFSE project because some sites may not have had market hogs eligible for fecal sampling at the time of the visit. The third column shows the total number of market hogs on the sites where fecal sampling occurred in each of the States. The fourth column shows the number of pens where fecal samples were collected. The last column shows the number of market hogs present in the pens where fecal samples were collected.

Table 1. Structure of the coverage population*

	Sites		Pens	
State	Number of sites	Market hog inventory	Number of pens	Market hog inventory
IA	6	20,184	25	2,650
MN	9	22,033	66	2,778
NC	8	68,537	57	1,227
TX	4	1,195	21	303
Total	27	111,949	169	6,958

*for sites where fecal samples were collected

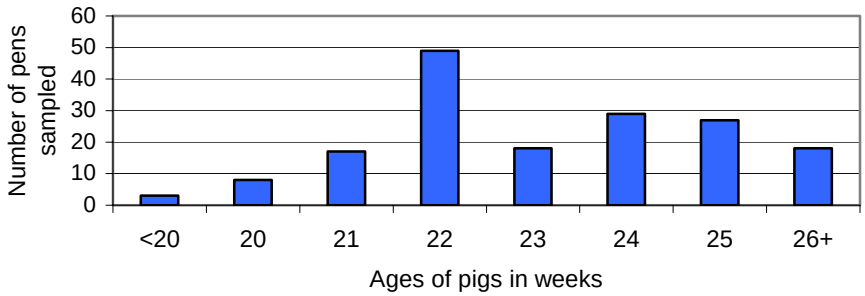
Figure 2. Characteristics of coverage population this quarter



To represent the diversity of swine production facilities, some farrow-to-finish sites were enrolled in CAHFSE as well as sites that had only weaned market hogs. Likewise some indoor-only sites were enrolled as were some sites where hogs had outdoor access. Figure 2 shows the number of the sites sampled this quarter (i.e., sites where fecal samples were collected) with sows present or where hogs had outdoor access.

Figure 3 shows the number of pens sampled by the average age of hogs in those pens. The goal of CAHFSE was to collect fecal samples from pens of hogs nearing the end of the finishing phase, i.e., approximately 22 weeks of age or older.

Figure 3. Ages of pigs in sampled pens this quarter



Enteric organisms

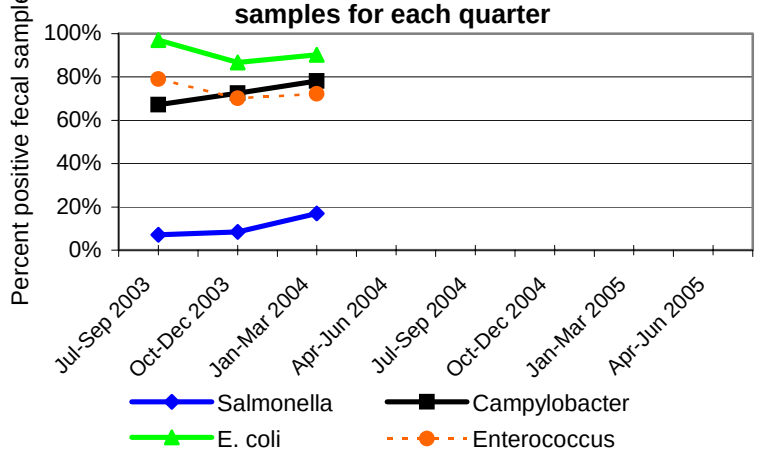
Table 2 shows prevalence of enteric organisms cultured from fecal samples.

Table 2. Summary of isolation of enteric organisms from fecal samples

Organism	Number of samples tested	Number of positive samples	Number of samples with multiple isolates	Number of isolates	Percent samples positive
Salmonella	969	164	14	178	16.9%
Campylobacter	388	303	0	303	78.1%
E. coli	388	350	0	350	90.2%
Enterococcus	388	280	0	280	72.2%

Figure 4 shows the prevalence of each enteric organism in fecal samples by quarter.

Figure 4. Prevalence of enteric organisms in fecal samples for each quarter

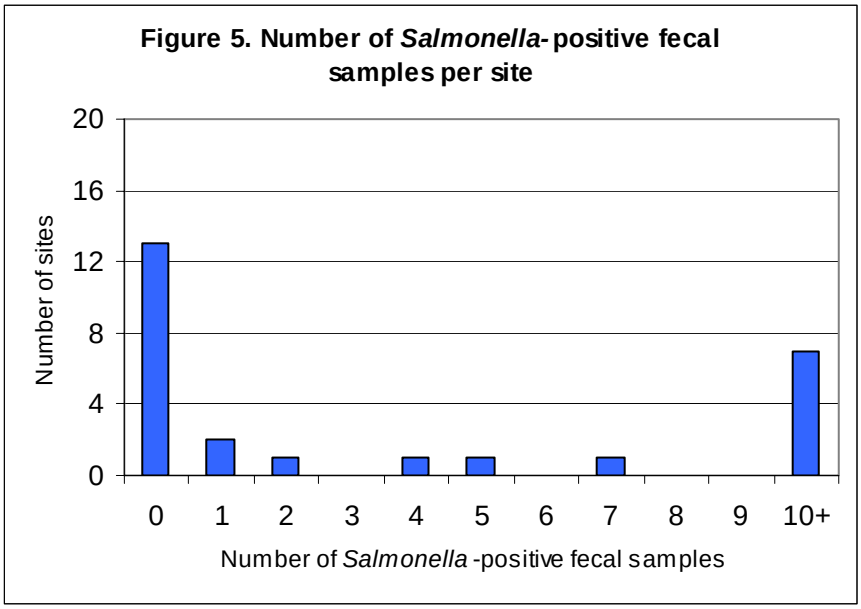


Tables 3 shows the site and pen prevalence of *Salmonella* recovery from fecal samples collected for each state this quarter.

Table 3. Number of fecal samples collected and *Salmonella* prevalence per site and per pen

State	Number of samples collected	Number of sites	Number of sites positive for *Salmonella*	Number of pens	Number of pens positive for *Salmonella*
IA	190	6	2	25	13
MN	360	9	2	66	9
NC	300	8	7	57	37
TX	160	4	2	21	4
Total	1,010	27	13	169	63

Figure 5 shows the number of sites with various numbers of *Salmonella*-positive fecal samples this quarter.



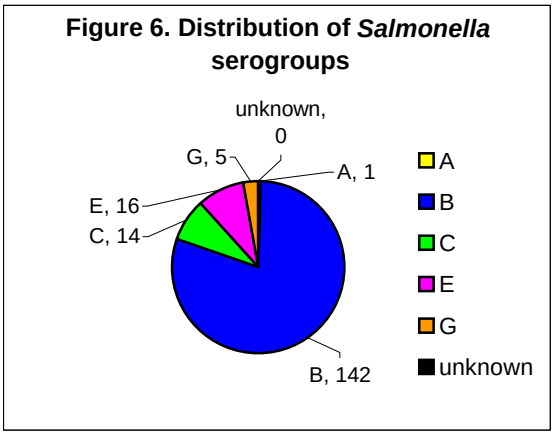


Figure 6 shows the *Salmonella* serogroups represented in positive fecal cultures this quarter.

Table 4 shows the most common *Salmonella* serotypes identified and the number of sites where these samples were isolated this quarter.

Table 4. Frequency of *Salmonella* serotypes cultured

Salmonella serotype	Number of isolates	Number of sites
Derby	72	8
Typhimurium (copenhagen)	32	6
Heidelberg	22	4
Salmonella untypable	11	7
Anatum	7	2
Give	7	2
Manhattan	6	1
Worthington	5	3
Mbandaka	5	2
Typhimurium	3	1
Montevideo	3	1
Senftenberg	2	1
Reading	2	1
Agona	1	1
All others	0	0
Total	178	27

Antimicrobial Resistance—Salmonella

Table 5 shows the percent of all *Salmonella* isolates from fecal samples that were resistant to each of the antimicrobial drugs on the panel. For the purpose of this analysis, isolates that were classified as 'intermediate' were considered susceptible this quarter.

Table 5. Number and percent of *Salmonella* isolates from fecal samples resistant to each antimicrobial tested

Antibiotic	Number of isolates resistant	Percent of isolates resistant
Amikacin	0	0.0%
Amoxicillin / Clavulanic acid	23	12.9%
Ampicillin	58	32.6%
Cefoxitin	22	12.4%
Ceftiofur	22	12.4%
Ceftriaxone	1	0.6%
Cephalothin	22	12.4%
Chloramphenicol	29	16.3%
Ciproflocacin	0	0.0%
Gentamicin	13	7.3%
Kanamycin	30	16.9%
Naladixic acid	0	0.0%
Streptomycin	74	41.6%
Sulfa	56	31.5%
Tetracycline	168	94.4%
Trimethoprim / Sulfa	6	3.4%

Figure 7 shows the percent of *Salmonella* isolates from fecal samples that were resistant to the specified number of antimicrobials. The difference between the height of the bar and 100 percent is the percentage of isolates that were not resistant to any drugs in the panel.

Figure 7. Percent of *Salmonella* isolates from fecal samples resistant to the specified number of antimicrobials